

Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) ~~A medical~~An exercise test device for acquiring and analyzing a multi-lead electrocardiogram (ECG) from a patient, the ~~medical~~ device comprising:

input terminal for connection to a patient to acquire multi-lead ECG signals from the patient;

instrumentation amplifier connected to the input terminal to filter the ECG signals and combine the signals to generate a multi-lead ECG;

analysis module including a processor and software for operating the processor to detect cyclic artifact in the multi-lead ECG, wherein the cyclic artifact is detected by acquiring a trigger point in the multi-lead ECG, updating a shift register with a new trigger interval based on the trigger point, and determining whether two independent rhythms exist when a pre-determined number of trigger intervals have been recorded,

and further wherein and select a leadany of the leads may be selected for analysis based on a lack of cyclic artifact in that lead; and

an analog-to-digital (A/D) converter connected between the instrumentation amplifier and the analysis module,

wherein the multi-lead ECG generated by the instrumentation amplifier is an analog multi-lead ECG, wherein the A/D converter converts the analog multi-lead ECG to a digital multi-lead ECG and wherein the analysis module detects cyclic artifact in the digital multi-lead ECG.

2. (Original) A medical device as set forth in claim 1, the medical device further comprising:

a display monitor connected to the analysis module, the display monitor capable of displaying the selected lead.

3. (Original) A medical device as set forth in claim 1, the medical device further comprising:

a printer connected to the analysis module, the printer capable of printing the selected lead.

4. (Original) A medical device as set forth in claim 1, the medical device further comprising:

an external storage device connected to the analysis module, the external storage device capable of storing the selected lead.

5. (Cancelled)

6. (Original) A medical device as set forth in claim 1, wherein the multi-lead ECG comprises twelve leads.

7. (Original) A medical device as set forth in claim 1, wherein the multi-lead ECG comprises seven leads.

8. (Cancelled)

9. (Currently Amended) An exercise test~~A medical~~ device for acquiring and analyzing a physiological waveform, the medical device comprising:

an input terminal for connection to a patient to acquire the physiological waveform from a patient;

an instrumentation amplifier connected to the input terminal to filter the physiological waveform;

an analysis module including a processor and software for operating the processor to detect cyclic artifact in the physiological waveform, wherein the cyclic artifact is detected by

acquiring a trigger point in the physiological waveform, updating a shift register with a new trigger interval based on the trigger point, and determining whether two independent rhythms exist when a pre-determined number of trigger intervals have been recorded; and

an analog-to-digital (A/D) converter connected between the instrumentation amplifier and the analysis module,

wherein the physiological waveform filtered by the instrumentation amplifier is an analog physiological waveform, wherein the A/D converter converts the analog physiological waveform to a digital physiological waveform ~~and wherein the means for detecting cyclic artifact in the physiological waveform.~~

10. (Original) A medical device as set forth in claim 9, the medical device further 10 comprising:

a display monitor connected to the analysis module, the display monitor being capable of displaying the physiological waveform.

11. (Original) A medical device as set forth in claim 9, the medical device further comprising:

a printer connected to the analysis module, the printer being capable of printing the physiological waveform.

12. (Previously Presented) A medical device as set forth in claim 9, the medical device further comprising:

an external storage device connected to the analysis module, the external storage device being capable of storing the physiological waveform.

13. (Original) A medical device as set forth in claim 9, wherein the physiological waveform is a multi-lead ECG.

14. (Original) A medical device as set forth in claim 13, wherein the multi-lead ECG

comprises twelve leads.

15. (Original) A medical device as set forth in claim 13, wherein the multi-lead ECG comprises five leads.

16. (Cancelled)

17. (Currently Amended) A medical device for acquiring and analyzing a physiological signal, the medical device comprising:

an input terminal for connection to a patient to acquire a physiological signal from the patient;

an instrumentation amplifier connected to the input terminal to filter and amplify the physiological signal resulting in a physiological waveform;

means for detecting cyclic artifact in the physiological waveform, wherein the cyclic artifact is detected by acquiring a trigger point in the physiological waveform, updating a shift register with a new trigger interval based on the trigger point, and determining whether two independent rhythms exist when a pre-determined number of trigger intervals have been recorded; and

an analog-to-digital (A/D) converter connected between the instrumentation amplifier and the means for detecting cyclic artifact,

wherein the physiological waveform generated by the instrumentation amplifier is an analog physiological waveform to a digital physiological waveform and wherein the means for detecting cyclic artifact detects cyclic artifact in the physiological waveform.

18. (Original) A medical device as set forth in claim 17, the medical device further comprising:

a display monitor connected to the means for detecting cyclic artifact, the display monitor being capable of displaying the physiological waveform.

19. (Original) A medical device as set forth in claim 17, the medical device further

comprising:

a printer connected to the means for detecting cyclic artifact, the printer being capable of printing the physiological waveform.

20. (Original) A medical device as set forth in claim 17, the medical device further comprising:

an external storage device connected to the means for detecting cyclic artifact, the external storage device being capable of storing the physiological waveform.

21. (Original) A medical device as set forth in claim 17, wherein the means for detecting cyclic artifact comprises an analysis module having a processor and software for detecting cyclic artifact in the physiological waveform.

22. (Original) A medical device as set forth in claim 17, wherein the physiological signal is a multi-lead ECG signal, and wherein the physiological waveform is a multi-lead ECG.

23. (Original) A medical device as set forth in claim 22, wherein the multi-lead ECG comprises twelve leads.

24. (Original) A medical device as set forth in claim 22, wherein the multi-lead ECG comprises five leads.

25. (Cancelled)

26. (New) A method of acquiring and analyzing a multi-lead electrocardiogram (ECG) from a patient, the method comprising:

acquiring a set of multi-lead ECG signals from a patient;

combining and filtering the set of multi-lead ECG signals to generate a multi-lead ECG;

acquiring a trigger point in the multi-lead ECG;

updating a shift register with a new trigger interval based on the trigger point;

determining whether two independent rhythms exist when a pre-determined number of trigger intervals have been recorded, such that a second independent rhythm is the cyclic artifact; and

selecting any of the leads that do not include two independent rhythms for analysis.